

**Beth Israel Deaconess Medical Center
Environment of Care Manual**

Title: LOCK OUT/TAG OUT PROGRAM

Policy #: EC-60

Purpose:

This program establishes minimum performance requirements for controlling hazardous energy during the servicing and maintenance of equipment at all medical center locations, including off-site facilities (under the BIDMC license). The program is intended to prevent injury to employees that might result from the unexpected startup of equipment or release of stored energy. The procedures set forth in this document shall be followed and used at all times to eliminate the unintended possibility, during servicing or maintenance activities, of setting movable parts into motion, energizing electrical circuits, releasing stored hazardous energy, and opening valves.

This document serves to comply with the OSHA Standard, 29 CFR 1910.147, The Control of Hazardous Energy, otherwise known as the Lockout/Tagout Standard, and with the OSHA Electrical Work Practice Standards, 29 CFR 1910.333(b)(2)

Scope:

This program applies to all departments in all BIDMC buildings and leased areas whose employees may be engaged in the following:

1. Servicing or maintaining equipment where the unexpected startup of that piece of equipment could injure an employee;
2. Operating equipment that is in the process of being serviced or maintained;
and
3. Working in an area where a lockout/tagout system is being implemented;

This program does not cover normal production operations unless:

- An employee is required to remove or bypass a guard or other safety device, or
- An employee is required to place any part of his/her body into an area of the machine or equipment where he/she could be injured.

This program does not cover work on plug and cord equipment where:

- The unexpected startup is controlled by unplugging such equipment, and
- The plug is under the exclusive control of the employee performing the servicing or maintenance.

Policy Statement:

Beth Israel Deaconess Medical Center must ensure that all employees who may fall within the scope of this program are instructed in the safety significance of the lockout/tagout program. Employees specifically designated as authorized employees

are expected to ensure that applicable energy control procedures are followed and carried out as stipulated under the general rules and/or specific procedures of this program. Beth Israel Deaconess Medical Center shall also ensure that each new or transferred affected employee and other employees whose work operations are or may be in the area are instructed in the purpose and use of the lockout/tagout procedure. Departments that engage the servicing of outside personnel (i.e., contractors) shall ensure that the applicable provisions of this program are coordinated and adhered to as appropriate.

DEFINITIONS

A. Affected Employee

An affected employee is one whose job requires him/her to use a machine or equipment when servicing or maintenance is being performed under lockout or tagout. It also applies to an individual whose job requires him/her to work in an area where such servicing or maintenance is being performed.

B. Authorized Employee

An authorized employee is a person who locks or implements a tagout system procedure to perform the servicing or maintenance on a piece of equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on equipment that must be locked out or tagged out.

C. "Capable of Being Locked Out"

An energy isolating device will be considered to be "capable of being locked out" if it is designed with a hasp or other attachment or integral part to which, or through which, a lock can be affixed, or if it has a locking mechanism built into it. Other energy isolating devices will also be considered to be "capable of being locked out" if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

D. Energy Isolating Device

An energy isolating device is any mechanical device that physically prevents the transmission or release of energy. These include but are not limited to, manually operated electrical circuit breakers, disconnect switches, line valves, and blocks. This term does not include a push button, selector switch, or other control circuit type devices.

E. Energy Source

An energy source is any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

F. Lockout Device

A lockout device utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. A prominent warning device, such as a tag and a means of attachment, should be securely fastened to an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

G. Normal Production Operations

“Normal production operations” is the utilization of a machine or equipment to perform its intended production function.

H. Servicing and/or Maintenance

Servicing and/or maintenance includes workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning, or the repair of jammed machines or equipment, and making adjustments or tool changes where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

I. Tagout Device

A tagout device is a prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Responsibilities:

ENVIRONMENTAL, HEALTH AND SAFETY (EH&S) DIRECTOR/DESIGNEE

EH&S will develop, maintain, distribute, and provide oversight in accordance with all applicable lockout/tagout regulations, and best industry practices. EH&S will assist the Maintenance, Facilities, Engineering, Telecommunications and others in developing appropriate lockout/tagout plans, providing technical guidance and assisting/coordinating staff training.

MAINTENANCE, FACILITIES, ENGINEERING, TELECOMMUNICATIONS & OTHER DEPARTMENT DIRECTORS/DESIGNEES

Maintenance and Facilities All employees and contractors are to comply with this policy and all program elements, including providing appropriate training for their staff and if applicable, assure that hired contractors have and follow their respective lockout/tagout procedures/program. A contractor’s lockout/tagout procedures/program is to, at a minimum, meet all the requirements listed in this policy and OSHA 1910.147. LOTO procedures will be developed, maintained, and followed by all

affected and authorized employees and contractors.

Requirements:

BASIC REQUIREMENTS

Listed below are general procedures and rules for lockout/tagout required by the OSHA standard:

- A.** All equipment shall be locked or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel.
- B.** No one shall attempt to operate any switch, valve, or other energy isolating device while it is locked or tagged out.
 - a. If the machine, equipment, components require testing or positioning that would require LOTO devices to be removed this must be done in accordance with 1910.147(f)(1).
- C.** Lockout (vs. tagout) must be used when the energy isolating device is capable of being locked out.
- D.** Tagout without lockout shall only be used when the energy isolating device is not capable of being locked out. When tagout alone is used, the following conditions must be met:
 - 1. The tagout device must be attached at the same location the lockout device would have been attached.
 - 2. The tagout procedure must provide protection equal to that provided by a lockout procedure through the implementation of additional measures. Examples of such measures are:
 - a. Removing an isolating circuit element.
 - b. Blocking a controlling switch.
 - c. Opening an extra disconnecting device.
 - d. Removing a valve handle to reduce the likelihood of inadvertent energization.
 - e. Positioning standby personnel at the tagout location.
- E.** Whenever major replacement, repair, renovation, or modification of machines or equipment is performed, the energy isolating device shall be designed to accept a lockout device.
- F.** No new machines or equipment capable of releasing hazardous energy shall be installed unless the energy isolating device is capable of accepting a lock.

- G.** Only trained authorized employees are permitted to implement a lockout/tagout procedure. Authorized employees must be trained in accordance with the OSHA standard. The names of those authorized to implement lockout/tagout on a machine or a piece of equipment must be identified in writing.
- H.** Lockout and tagout devices must be standardized for the facility. Each affected department is to have their own identifiable lockout/tagout device.
- I.** All locks will be on the "One Lock—One Key" rule. Each lock and key must be singularly identified. The supervisors shall maintain a list of locks and keys and the names of the employees to whom they have been assigned.
- J.** Each lockout/tagout device shall be removed from each energy isolating device by the employee who applied the original lock or tag. When the authorized employee who applied the lockout or tagout device is not available to remove it, only the supervisor, accompanied by another authorized employee, may remove that device. Lockout/tagout removal under these circumstances may be performed only when the following conditions are met:
 1. The supervisor has verified that the authorized employee who applied the device is not at the facility.
 2. The supervisor has made all reasonable efforts to contact the authorized employee to tell him/her that his/her lockout or tagout device has been removed.
 3. The supervisor has ensured that the authorized employee is informed that his/her lockout or tagout device has been removed before the employee resumes work at this facility.
 4. If more than one authorized employee is required to lockout or tagout the equipment/machinery, each authorized person shall place their own personal lockout or tagout device on the energy isolating device(s). There must be an authorized person to assume primary responsibility for all employees/ affected persons working under the protection of a group lockout or tagout device (such as an operations lock).
 5. For shift or personnel changes during a lockout or tagout, there must be an orderly transfer of lockout or tagout devices between the first employee(s) and the relief employee(s) to minimize exposures to hazards of unexpected energization, start-up, or release of stored energy.

6. Whenever outside servicing personnel (contractors/ vendors) are engaged in lockout or tagout activities, the respective Beth Israel Deaconess Medical Center Department and the outside employer shall inform, understand, and comply with each other's respective lockout/tagout procedures.

Procedures:

I. GENERAL PROCEDURES

When servicing or maintenance is to be performed on a piece of equipment or machinery for which specific written lockout/tagout procedures are not required, the following steps and sequence must be followed.

- Notify employees who work in the area that a lockout or tagout procedure is going to be implemented.
- Shut the machine or equipment down by the normal stopping procedure.
- Operate the energy-isolating device so that the equipment is isolated from its energy source.
- Lockout or tag the energy isolating device with the assigned individual lock or tag.
- After ensuring that no one is exposed, verify that the equipment is de-energized and locked out by attempting to operate it. **Caution:** Return operating control(s) to "neutral" or "off" position after the test.
- Proper locks/tags must be posted and remain in place until procedures are completed.

II. SPECIFIC PROCEDURES

Specific energy control procedures shall be developed and followed for any equipment/machinery not otherwise capable of being safeguarded by implementing the general procedures.

Note: Specific written procedures for a particular piece of equipment/machinery are not required if all of the following apply:

- The equipment has no potential for stored or residual energy, or the accumulation of stored energy after shutdown, which could endanger personnel.
- The equipment has a single energy source that can be readily identified

and isolated.

- The isolation and locking out of that energy source will completely de-energize and deactivate the equipment.
- The equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lockout device will achieve a lockout condition.
- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- The servicing or maintenance does not create hazards for other employees.
- There have been no accidents involving the unexpected energization of the piece of equipment.

Each affected department shall document and maintain specific lockout/tagout procedures for equipment not meeting the above noted exceptions.

Authorized employees must follow the specific procedure when performing lockout/tagout on a piece of equipment.

The specific procedures must be modified as necessary to reflect changes in the equipment, the method or location of isolation, the energy sources, and/or authorized employees.

III. REMOVAL OF LOCKOUT/TAGOUT DEVICE(S)

After the servicing or maintenance is complete and the equipment is ready for normal production operations, check for the following:

1. All employees are in the clear.
2. The equipment is operationally intact.
3. Non-essential items (e.g., tools) have been removed.
4. All guards have been re-installed.
5. Controls are in neutral.

- Notify employees in the area that the lockout device will be removed before the removal and restoration of energy.
- Lockout/tagout devices shall be removed by the persons who applied the devices.
- Operate the energy isolating device to restore energy.

IV. PERIODIC INSPECTIONS

Periodic inspections shall be conducted (at least annually) to ensure that the procedures and requirements of the energy control program are fully understood and are being followed. The inspection will be documented using Appendix A of this program.

- Periodic inspections are to be performed by an authorized employee other than the

ones using the energy control procedure being inspected.

- The inspections must be designed to detect and correct any deficiencies in the procedures, and include a review of responsibilities as well as observations of the procedures being followed.
- Each inspection shall be properly documented to include the identity of the machine/equipment involved, the date of inspection, employees included in the inspection, and person conducting the inspection.
- Each department impacted by the application of the lockout/tagout program should ensure that periodic inspections are conducted in accordance with the above parameters.

V. USE OF OUTSIDE CONTRACTORS

Whenever outside contractors are to be engaged in activities at Beth Israel Deaconess Medical Center that are covered by this program, the respective (involved) department and outside contractor shall inform each other of their respective lockout/tagout procedures. An authorized employee will accompany the outside employer to ensure that the lockout/tagout procedure is followed. It will be the responsibility of the outside contractor to advise their own personnel about lockout/tagout procedures. A contractor's lockout/tagout procedures/program is to, at a minimum, meet all the requirements listed in this policy and 29 CFR 1910.147. Refer to [EC-26 Contractor Policy](#).

VI. Training:

Training shall be given to all authorized, affected, and other personnel as follows.

- Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, type and magnitude of the energy available in their respective work places, and the method and means necessary for energy isolation and control.
- Affected employees shall receive instructions in the purpose and use of the energy control procedures.
- All other employees who may be in areas where energy control procedures may be utilized will be informed of the lockout/tagout program, including the significance of attached tags.
- Retraining will be required whenever there is a change in job assignments, equipment, or processes that present a new hazard, or in the energy control procedures.

- Retraining will also be required whenever the periodic inspections reflect deficiencies or deviations in an employee's knowledge or use of energy control procedures.
- Each department shall ensure that appropriate training of their employees has been accomplished and is being kept up-to-date. Training shall be documented to include the identity of persons trained and dates of training.

EH&S has online lockout-tagout training material that can be viewed on the portal at the [EH&S Training site](#) as a resource.

Attachment A: Periodic Inspection Checklist for Lockout/Tagout

Approved By:

Vice President Sponsor: Walter Armstrong, SVP, Capital Facilities and Engineering

EOC Committee: 9/11/2019

**W. Armstrong & K. Murray
Co-Chairs**

Requestor Name: Alana Dale, Interim Director, EH&S

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Eliminated: (Date)

Attachment A: Periodic Inspection Checklist for Lockout/Tagout

GENERAL INSPECTION		
Name(s) of Authorized Employee Being Audited:		
Department/Trade Shop:		
Audited By:		
Title of Auditor:		Date:
Name/Identification of Machine, Process, or Equipment:		
Location of the lockout/tagout:		
PREPARING FOR SHUTDOWN	YES	NO
The employee has been trained in the General BIDMC Lockout/Tagout procedures.	<input type="checkbox"/>	<input type="checkbox"/>
The employee was able to identify all "stored" and "kinetic" energy.	<input type="checkbox"/>	<input type="checkbox"/>
SHUTTING DOWN THE EQUIPMENT		
The employee shut down the piece of equipment using normal stopping procedures (example: putting a switch in the "off" position or pressing a button).	<input type="checkbox"/>	<input type="checkbox"/>
ISOLATING THE EQUIPMENT		
The piece of equipment was isolated from every energy source feeding into it (example: close valves, throw main disconnects, throw circuit breakers).	<input type="checkbox"/>	<input type="checkbox"/>
APPLYING LOCKOUT/TAGOUT DEVICE		
Appropriate locks, tags, and lockout devices were available and utilized correctly.	<input type="checkbox"/>	<input type="checkbox"/>
CONTROLLING STORED ENERGY		
All potential residual hazardous energy was relieved, disconnected, or restrained (example: trapped pressure relieved, pipe flanges blanked, elevated equipment blocked or supported).	<input type="checkbox"/>	<input type="checkbox"/>
VERIFYING ISOLATION		
The equipment was tested to ensure the right system was locked out, and to ensure that the equipment could not be operated.	<input type="checkbox"/>	<input type="checkbox"/>
REMOVING LOCKS AND TAGS		
All equipment components are intact and capable of operating properly.	<input type="checkbox"/>	<input type="checkbox"/>
All lockout/tagout devices are only removed by the employee who applied them, and affected employees have been notified that locks and tags have been removed and the equipment is ready for use.	<input type="checkbox"/>	<input type="checkbox"/>
List any issues identified during the lockout/tagout audit:		
List any corrective steps taken to rectify the issues identified:		
Auditor Signature:		Date:
Authorized Employee(s) Signature:		Date: